



CALIFORNIA  
ENERGY  
COMMISSION

PON-11-507

**Hybrid Generation and Fuel-flexible  
Distributed Generation/Combined  
Heat and Power/Combined Cooling,  
Heat and Power (DG/CHP/CCHP)  
Systems**

**Research, Development and  
Demonstration**

**PIER Renewable Energy and  
Advanced Generation**

APPLICATION PACKAGE

Date: January, 2012



EDMUND G. BROWN JR., Governor

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## GRANT SOLICITATION AND APPLICATION PACKAGE

### Public Interest Energy Research (PIER) Program Research, Development & Demonstration (RD&D)

#### Hybrid Generation and Fuel-flexible Distributed Generation/Combined Heat and Power/Combined Cooling, Heat and Power (DG/CHP/CCHP) Systems

1. **Release Date:** January 6, 2012
2. **Proposal Due Date:** February 29, 2012 at 4:00 p.m.

3. **Purpose of Solicitation**

This is a competitive Grant Solicitation sponsored by the California Energy Commission's (Energy Commission's) Public Interest Energy Research (PIER) Program. The purpose of this Solicitation is to fund research, development and demonstration (RD&D) projects that will: (1) advance the science, technology and market penetration in California of grid-connected distributed generation/combined heat and power/combined cooling, heating and power (DG/CHP/CCHP); and (2) integrate emerging multiple DG/CHP/CCHP technologies, including energy storage and fuel flexibility, in diversified applications.

The PIER Program is releasing this Solicitation to support RD&D projects in the research subject areas of Renewable Energy and Advanced Generation. The intent of funding in this area is to improve the performance and advance the market penetration of DG/CHP/CCHP systems in California with the broad objectives of increasing efficiency; reducing cost; reducing emissions (including greenhouse gases); increasing use of renewable and alternative fuels; and improving the reliability, load factors, and operational flexibility of integrated systems used in residential, commercial, and industrial applications for electricity generation, space conditioning, and process heating and/or cooling.

4. **Availability of Solicitation Documents and Information**

This Solicitation and all supporting documents and forms can be found at <http://www.energy.ca.gov/contracts/index.html> under "Current Solicitations." In addition, you may request to be added to the mailing notification list to receive changes made to this Solicitation. Interested parties may also register on the electronic mailing list on this webpage to receive notifications of any changes to this Solicitation.

For those parties without internet access, copies of Solicitation documents and information can be obtained by contacting:

Kevyn Piper  
Grants and Loans  
California Energy Commission  
1516 Ninth Street, MS-1  
Sacramento, CA 95814  
Telephone: (916) 654-4845  
Email: [kpiper@energy.state.ca.us](mailto:kpiper@energy.state.ca.us)

## 5. Policy Background

The PIER Program was established in 1996 when Governor Wilson signed into law Assembly Bill (AB) 1890 (Brute, Chapter 854, Statutes of 1996) which provided authority for a fundamental restructuring of California's electric services industry. This program, administered by the Energy Commission, funds selected RD&D efforts that advance energy science or technology that is not adequately addressed by the competitive and regulated energy markets. The overall objectives of PIER include improving affordability, reliability, health and safety, California's economy, environmental outcomes, and consumer choices relevant to electricity supply and use in California. Detailed information about the PIER program can be found on the Energy Commission's website at [www.energy.ca.gov/research/index.html](http://www.energy.ca.gov/research/index.html). The PIER annual report provides information on past projects funded by the PIER Program. Past annual reports can be accessed at [www.energy.ca.gov/research/annual\\_reports.html](http://www.energy.ca.gov/research/annual_reports.html).

This Solicitation supports existing California legislation, policies and programs, including:

- SB 1250 (Perata), Chapter 512, Statutes of 2006, which states, in part:

“The general goal of the [Public Interest Energy Research] program is to develop, and help bring to market, energy technologies that provide increased environmental benefits, greater system reliability, and lower system costs, and that provide tangible benefits to electric utility customers through ...

  - Advanced electricity generation technologies that exceed applicable standards to increase reductions in greenhouse gas emissions from electricity generation, and that benefit electric utility customers.
  - Advanced electricity technologies that reduce or eliminate consumption of water or other finite resources, increase use of renewable resources...”
- Assembly Bill 32 (Nuñez, Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006, landmark legislation for reducing greenhouse gas emissions. The California Air Resource Board (ARB) September 2008 *Climate Change Proposed Scoping Plan* includes increasing CHP electricity production by 30,000 GWh by 2020 as one of the greenhouse gas reduction measures. The report is available at [www.arb.ca.gov/cc/scopingplan/document/draftscopingplan.pdf](http://www.arb.ca.gov/cc/scopingplan/document/draftscopingplan.pdf).
- AB 1613 (Blakesley, Statutes of 2007), the Waste Heat and Carbon Emissions Reduction Act, seeks to support and facilitate both customer- and utility-owned CHP systems. The act gives the California Public Utilities Commission permission to require an electrical corporation to purchase excess electricity delivered by a CHP system that complies with certain sizing, energy efficiency and air pollution control requirements. The Act requires that the Energy Commission, by January 1, 2010, adopt guidelines for qualifying CHP systems such that waste energy is reduced; systems are sized to meet the site's thermal load; systems operate continuously in a manner that meet the expected thermal load; and systems are cost-effective, technologically feasible, and environmentally beneficial.
- Governor Brown's Clean Energy Jobs Plan which calls for 12,000 MW of localized renewable generation and 8,000 MW of large-scale renewables, for a total of 20,000

MW of additional renewable energy capacity by 2020, and for 6,500 MW of additional CHP capacity over the next 20 years. Description of the energy plan can be found at [http://www.jerrybrown.org/Clean\\_Energy](http://www.jerrybrown.org/Clean_Energy).

Senate Bill X1-2 (Simitian, 2011), signed by Governor Brown in April 2011, which requires that all electricity retailers in the state including publicly owned utilities (POUs), investor-owned utilities (IOUs), electricity service providers, and community choice aggregators adopt the new Renewable Portfolio Standard (RPS) goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement being met by the end of 2020.

## **6. General Statement of the Problem**

Distributed generation (DG) refers to localized electricity generation or storage systems that are located at or very near the location where the energy is used. These systems are grid-connected or stand-alone connected to the distribution level of the transmission and distribution grid. Benefits of DG include reduced losses at peak delivery times, energy independence and protection against outages, and reduced need for transmission and distribution infrastructures. Combined heat and power (CHP), also known as cogeneration, is the most efficient and cost-effective form of DG. CHP or CCHP is the concurrent production of electricity or mechanical power and useful thermal energy (heating and/or cooling) from a single source of energy. It provides benefits in the form of reduced energy costs, more efficient use of fuel, fewer environmental impacts, improved reliability and power quality, and other benefits of distributed generation.

The Energy Commission's Integrated Energy Policy Reports (IEPRs) have consistently emphasized the importance of DG/CHP and advanced generation in meeting the state's energy and environmental goals. In the 2005 IEPR, CHP is recognized as an end-use efficiency measure for commercial, industrial, and institutional facilities. The 2005 Energy Action Plan established DG/CHP as a priority element of California's loading order for meeting new electricity needs stating that after cost-effective efficiency and demand response, the energy plan hinges on renewable sources of power and DG such as CHP. The 2009 IEPR calls for increased efficiency and reliability and underscores the role of CHP in attaining increased overall efficiency and reducing greenhouse gas emissions. CHP provides benefits to California through more efficient use of natural gas fuel which also results in decreased greenhouse gas emissions. Further, the 2009 IEPR emphasized the role of renewable CHP in meeting RPS goals and acknowledged that CHP that uses renewable fuels provides additional benefits to California. Among the recommendations from the 2009 IEPR are developing new approaches to balance criteria pollutant emission reductions against energy efficiency improvements and gas reductions from electricity generation, and funding near-term potential of CHP systems that use biogas as fuel.

Public and stakeholder workshops, conducted in support of developing roadmaps for renewable research at the utility and building scale and for advanced generation research, identified hybrid generation and fuel flexibility among priority strategies for meeting the IEPR 2009 recommendations on efficiency, emissions, and renewable CHP. This advanced generation strategy complements the efforts of addressing renewable power generation barriers related to intermittency, reliability, grid-integration, and slow market penetration, and recognizes that in order to meet the energy goals, improved natural gas power generation is part of the solution.

Hybrid generation” refers to seamlessly integrated and managed combinations of two or more energy conversion technologies, e.g. electricity generators and energy storage devices, while “fuel flexible systems” indicates the ability to use two or more types of fuels, including renewable and alternative fuels, for the same technology. Such systems produce synergistic benefits and typically overcome limitations inherent on either one technology and offer great potential for improved reliability, efficiency, and reduced emissions and intermittency. Some of the technical challenges to this type of system encompass system integration, hardware and control systems, and design challenges including design life, performance, optimal sizing, and balance of plant and design-to-cost issues.

This Solicitation seeks to address the challenges related to the slow penetration of new DG/CHP/CCHP installations in California, increasing CHP’s efficiency, flexibility, and reducing greenhouse gas emissions, and to increase renewable CHP.

## **7. Eligible Projects**

Eligible projects include technology development and/or demonstration projects within California that: (1) advance the science, technology, and market penetration in California of grid-connected DG, CHP, and/or CCHP systems; and (2) address technical and/or economic challenges to the development and market deployment of integrated multiple DG/CHP/CCHP technology, energy storage, and/or fuel flexible systems in diverse market applications.

Development and demonstration projects must emphasize hybrid generation and fuel flexible CHP/CCHP. Projects must also show innovations beyond the current market of CHP/CCHP. These innovations must result in improvements in overall system performance (including increased fuel-to-electricity efficiency beyond the current state-of-the-art efficiencies, reduced cost, and emissions that are in compliance with the California Air Resources Board (CARB) 2007 emissions standards for DG and DG/CHP), and contribute to increased use of renewable and alternative fuels. Proposals submitted for this solicitation must clearly identify the baseline for performance and cost improvements.

In addition, projects must meet the following criteria:

- Demonstration projects must be located in a California IOU service area. However, researchers can be located in POU areas. IOUs include the following California public utilities:
  - Pacific Gas and Electric Company
  - San Diego Gas and Electric Company
  - Southern California Edison
  - Southern California Gas Company
- Demonstration projects must provide one or more letters of support from the host site.
- Projects must demonstrate how projects will directly benefit California electricity and/or natural gas ratepayers
- The proposal must include a California-based Entity (CBE) as either the recipient or a subcontractor (see the discussion of CBEs in Section 8).

- The proposal budget must allocate at least 60% of PIER funds to one or more CBEs.
- If the CBE is the recipient, the proposal budget must provide evidence that it will spend at least 60% of funds in California. If the recipient is not a CBE, the proposal budget must provide evidence that it will subcontract at least 60% of PIER funds to a CBE and that the CBE will spend the funds in California. The 60% applies only to PIER funds and does not include the Applicant's matching funds.
- No more than 40% of the PIER funds may be subcontracted to non-CBEs.
- The proposed budget must document expenditure of PIER funds in California by indicating expenditures to subcontractors identified in the CBE form (Attachment H). See Attachments G and H for more information.

**Potential technical areas of research and development** include but are not limited to the following:

- Advancing technologies that enable technically viable and cost-competitive integration of renewable resources for hybrid cycle applications or combined cycle plant operation
- Increasing fuel use efficiency, electrical and thermal utilization efficiency, and load following capability of integrated multiple or fuel-flexible DG/CHP/CCHP systems
- Improving performance and reducing cost of fuel-flexible commercial CHP systems powered by key DG technologies (e.g., fuel cells, microturbine, Stirling engine, gas turbine, reciprocating engine, and gas turbines)
- Advancing hybrid combined cycle, such as fuel cell-gas turbine hybrid system, that enables improved technical viability, performance and market competitiveness, while exceeding California's environmental standards
- Improving physical, thermal, and electrical integration among multiple DG/CHP/CCHP systems and components
- Improving operational and fuel flexibility of DG/CHP/CCHP systems to use a range of fuel including natural gas, renewable resources, waste fuels, and flare gases as system fuels
- Expanding the options for fuel flexibility through determination and evaluation of technical and economic potentials of a range of alternative fuels for commercial and industrial CHP/CCHP systems in California

All work performed under executed Agreements must end by **March 31, 2015**. The final invoice is required 30 days before the end term of each agreement. Invoices received after this day will not be accepted for payment.

## 8. Eligible Applicants

All types of organizations are eligible to apply, with the exception of publicly owned utilities. Proposals submitted under this Solicitation may request funding only for new projects. Funds may not be used to augment activities currently funded under existing PIER Agreements.

All Applicants must **agree to use only the PIER Grant Terms and Conditions** for any Agreement resulting from this Solicitation. The PIER Terms and Conditions can be found at <http://www.energy.ca.gov/contracts/index.html> as part of this Solicitation package. Applicants should read the PIER Agreement Terms and Conditions carefully, **especially the royalty provisions section**. Please note, however, that **the Energy**

**Commission reserves the right to modify the Terms and Conditions** prior to executing Grant Agreements.

#### California Secretary of State Registration

California business entities as well as non-California business entities conducting intrastate business in California are required to register and be in good standing with the California Secretary of State to enter into a Funding Agreement with the Energy Commission. If not currently registered with the California Secretary of State, Applicants are encouraged to contact the Secretary of State's Office as soon as possible to avoid potential delays in beginning the project if successful under this Solicitation. For more information, visit the California Secretary of State's website at [www.sos.ca.gov](http://www.sos.ca.gov).

#### California-Based Entities (CBEs)

The proposal must include a CBE as either the recipient or a subcontractor. A CBE is a corporation or other business entity organized for the transaction of business that:

- Has its headquarters or an office in California; and
- Substantially manufactures the product or substantially performs the research within California that is the subject of the award.

The proposal budget must allocate **at least 60%** of PIER funds to one or more CBEs. If the CBE is the recipient, the proposal budget must provide evidence that the CBE will spend at least 60% of funds in California. If the recipient is not a CBE, the proposal budget must provide evidence that it will subcontract at least 60% of PIER funds to a CBE and that the CBE will spend the funds in California.

- The 60% applies only to PIER funds and does not include the Applicant's matching funds. For example, if a proposal has a PIER budget of \$1,000,000 (regardless of how matching funds are pledged), the budget must show that \$600,000 of PIER funds are allocated to CBEs.
- Multiple CBEs may be used to meet the 60% requirement. For example, the 60% requirement is met if the recipient CBE receives 31% of PIER funds and the subcontractor CBE receives 29% of PIER funds. No more than 40% of PIER funds can be subcontracted to non-CBEs.
- No more than 40% of PIER funds may be subcontracted to non-CBEs.
- The proposal must document the expenditure of PIER funds in California.

Applicants must complete the California-Based Entity form (Attachment H) for each CBE.

#### Economic Investment in California

This Solicitation is designed to maximize economic investment in California by: (1) requiring that CBEs spend at least 60% of PIER funds in California; and (2) awarding greater points to projects that spend over 60% of PIER funds in California (see the scoring criteria in Attachment G, Section 2).

## **9. Funding Information**

The Energy Commission currently has **\$5 million** available for this Grant Solicitation, but reserves the right to alter this amount. The Energy Commission also reserves the right to alter the amount of funding given to a particular project selected for an award, or to

make no awards. If funds are reduced, the selected Recipient(s) and Commission Project Manager (CPM) shall meet and reach agreement on a reduced Scope of Work commensurate with the level of available funding. The \$5 million is contributed by the PIER Natural Gas Fund allocated to Renewable Energy and Advanced Generation RD&D Program. The maximum PIER funding to be awarded for any one proposal is **\$2 million**.

Only those proposals that meet the eligibility requirements, pass the pass/fail screening phase, and receive at least the minimum technical score will be considered for funding.

## **10. Match Funding Requirements**

Match funding is expected and should be appropriate and consistent with the expected level of public versus private benefits accrued from the project. In general, the more private benefits accrued the greater match share percentage that should be contributed towards the project. Match funding of **at least 25 percent** of the requested PIER funding is required.

Match funding may be cash, in-kind services, or a combination of the two. "In-kind services" include donated labor hours, equipment, facilities, and property (not real property). Equipment, facilities (e.g., laboratory space) and property other than real property can count as match funds as long as they are fully dedicated to the project for the time the equipment, facility or property is required by the Agreement, and as long as the value of the contribution is based on documented market values or book values and is depreciated or amortized over the term of the project using standard accounting principles. Equipment, facilities and property that do not qualify as match funds include such items as standard office supplies and property or equipment that is part of the Applicant's normal business activity (desks, typewriters, telephones, computers, software, etc.).

Prior investments in the research to be conducted in this project do not qualify as match funds. Also, funding from other Commission projects or Agreements does not qualify as match funding.

Budgets must show match fund contributions at the task level. Match fund contributions must be spent concurrently with PIER Program funds, and only on the tasks described in the Proposal.

Applicants must provide letters of match funding commitment for each source on matching funds from co-sponsors and the project host site. This may include a financial or monetary value on the amount and type of in-kind services commitment.

The Commission reserves the right to review and approve or disapprove the crediting of contributions and the amounts of those contributions as match funding. The loss of match funds during the Agreement is a reason for the Commission to hold a Critical Project Review and may result in the termination of the Agreement.

## **11. Payment of Prevailing Wage**

Some projects under this Solicitation might be considered public works pursuant to the California Labor Code. If the project is a public work, prevailing wage is required. The California Department of Industrial Relations (DIR) has jurisdiction to decide whether a

particular project is or is not a public work. If the proposed project involves construction, alteration, demolition, installation, repair or maintenance work, it probably would be considered by DIR to be a public work. A few of the activities that would probably lead DIR to find that the project involves public works include: cement work, site preparation such as grading, surveying, electrical work such as wiring, and carpentry work. Certain workers are entitled to prevailing wage such as operating engineers, surveyors, carpenters, laborers, etc. However, other trades are not entitled to prevailing wage such as engineers and project superintendents.

Applicants are encouraged to determine if the proposed project involves public works as soon as possible. In order to determine if the proposed project involves public works, Applicants will need to contact DIR. If the Applicant has not received a determination from DIR that the project is not a public work, the proposed budget must provide for the payment of prevailing wages. Please indicate whether the proposed budget includes prevailing wage.

If the proposed project is a public work, DIR maintains a list of covered trades and the applicable prevailing wage. The Agreement will include the requirements for a public works project, such as paying prevailing wage, keeping payroll records, complying with working hour requirements, and apprenticeship obligations. See the sample Terms and Conditions, the Special Condition regarding Prevailing Wage, and the accompanying forms for more information.

For detailed information about prevailing wage and the process to determine if the proposed project is a public work (See Attachment K.)

## **12. California Environmental Quality Act (CEQA)**

Some projects selected for funding may meet the definition of a “project” for purposes of CEQA (see Public Resources Code section 21000 et seq.). If this occurs, the Energy Commission’s Legal Staff will review the projects to determine whether an exemption applies that would prevent further actions under CEQA. If no exemption applies, certain CEQA requirements (e.g., preparation of a negative declaration or environmental impact report) will have to be met prior to the Energy Commission approving the Grant. The Applicant will have to pay the cost for these activities (please refer to Title 20, California Code of Regulations, Chapter 6, Article 1, including section 2308).

For general information about CEQA please visit the California Natural Resources Agency’s CEQA website at <http://ceres.ca.gov/ceqa/>.

## **13. Selection of Projects and Award Process**

The following process will be used to recommend projects for funding:

### Proposal Pass/Fail Screening

- A. PIER Program staff will conduct an initial pass/fail screening of all proposals received. See Attachment G, Section 1.

### Proposal Evaluation

- B. Qualifying proposals will be reviewed on a confidential basis by a Technical Scoring Committee of technical experts within and/or outside the Energy Commission.
- C. A Technical Scoring Committee will score the proposals using the scoring criteria in Attachment G, Section 2, taking into consideration the comments of collaborating reviewers.
- D. For the proposal evaluation phase, the Energy Commission reserves the right to invite Applicants to a clarification interview for their submitted proposals. When invited, an Applicant may appear in person at the Energy Commission office or discuss the proposal by telephone. The Energy Commission will provide no reimbursement to any Applicant for the interview appearance.
- E. A minimum score of 102 out of maximum possible score of 145, which is equivalent to 70%, is required to be eligible for funding.
- F. Pursuant to Public Resources Code Section 25620.5(h) and (i), the California Energy Commission's PIER Program shall give a priority to California-based Entities (CBEs) when making awards.
- G. The Technical Scoring Committee will rank proposals that receive at least the minimum passing score (70%) according to their overall score and submit the ranked list of proposals to the Energy Commission's RD&D Lead Commissioner for funding approval starting with the highest-ranked project. The Energy Commission reserves the right to determine the number of projects to be funded.

#### Notice to Applicants

- H. A Notice of Proposed Awards will be posted on the Energy Commission's website.

#### Funding Agreement

- I. The Energy Commission reserves the right to negotiate with an Applicant to modify the project scope, the level of funding, Scope of Work, schedule, product description, or budget.
- J. If the Energy Commission is unable to successfully negotiate and execute a Funding Agreement with an Applicant, the Energy Commission, at its sole discretion, reserves the right to cancel the pending award and fund the next highest ranked eligible proposal received under this Solicitation.
- K. A Scope of Work, Budget, Schedule of Products, and special conditions will be finalized with the proposed Grant Recipient.
- L. Project(s) recommended for funding and having a finalized Scope of Work, Budget, Schedule of Products, and special conditions will be scheduled and heard at an Energy Commission Business Meeting for approval.

If approved at an Energy Commission Business Meeting:

- M. Non-profit organizations that receive funding under this Solicitation must provide an authorizing resolution approved by their governing authority to enter into an Agreement with the Energy Commission. See Attachment M.
- N. A Grant Agreement, which includes non-negotiable Terms and Conditions, will be written and sent to the Recipient(s) for review, approval, and signature.
- O. Once returned to the Energy Commission, the Energy Commission will fully execute the Grant Agreement. Recipient(s) are approved to begin the project only after full execution of the Grant Agreement.
- P. All work performed and all invoicing under executed Agreements must be complete by March 31, 2015. Invoices received after this day will not be accepted for payment.

#### 14. Schedule of Proposal and Award Process

**Table 1: Schedule of Proposal and Award Process**

Release of Program Opportunity Notice and Application Manual	January 6, 2012
Pre-Proposal Workshop Hearing Room A California Energy Commission 1516 Ninth St, Sacramento, CA 95814	January 17, 2012
Deadline to Submit Questions	January 20, 2012
Post Questions and Answers to Website	January 27, 2012
<b>Deadline to Submit Proposals</b>	<b>February 29, 2012 @ 4:00 p.m.</b>
Interview Applicants (if necessary)	March 14, 2012 (estimated)
<b>Post Notice of Proposed Award</b>	<b>April 12, 2012 (estimated)</b>
Approval of Awards at Energy Commission Business Meeting	June 13, 2012 (estimated)

#### 15. Pre-Proposal Workshop

A Proposal workshop will be held through in-person participation, WebEx, and conference call. Participation by prospective Applicants is optional. Please call (916) 654-5067 or refer to the Energy Commission's website at <http://www.energy.ca.gov/contracts/index.html> to confirm the date and time.

<b>Dates:</b>	<b>January 17, 2012</b>
<b>Time:</b>	1:00 pm – 3:00 pm, Pacific Daylight Saving Time
<b>Location:</b>	California Energy Commission Hearing Room A 1516 Ninth Street Sacramento, California 95814 In-person and via WebEx
<b>See Instructions for Public Participation below.</b>	

**Public participation may be done in-person, via WebEx, and/or conference call.**

To join the WebEx meeting, click the following link and enter the meeting number and password provided below:

Topic: Hybrid Generation and Fuel-flexible Distributed Generation (DG) Workshop

Date: Tuesday, January 17, 2012

Time: 1:00 pm, Pacific Standard Time (San Francisco, GMT-08:00)

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**COMPUTER LOGON**  
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1. Please go to <https://energy.webex.com> and enter the unique meeting number: 927 610 002

2. When prompted, enter your information and the following meeting password:  
meeting@1pm

NOTE: Access to WebEx meetings is now available from your mobile device. To learn more and access your app, please visit <http://www.webex.com/overview/mobile-meetings.html>

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**TELECONFERENCE**  
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After logging in on the computer, an AUDIO CONFERENCE BOX will offer you the choice of phone connections:

1. TO HAVE WEBEX CALL YOU BACK: Type your area code and phone number and click "Call Me"

2. TO CALL INTO THE TELECONFERENCE: Use the drop-down box to select "I will call in" and follow the on-screen directions

3. INTERNATIONAL CALLERS: Click on the "Global call-in number" link in part (2) above

4. TO LISTEN OVER THE COMPUTER: If you have the needed equipment and your computer is configured, click on "Use Computer Headset" and then "Call Using Computer" to use VoIP (Internet phone)

TELEPHONE ONLY (NO COMPUTER ACCESS): Call 1-866-469-3239 (toll-free in the U.S. and Canada) and when prompted enter the unique meeting number: 927 610 002. International callers can select their number from <https://energy.webex.com/energy/globalcallin.php>

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**TECHNICAL SUPPORT**

For help with problems or questions trying to join or attend the meeting, please call WebEx Technical Support at 1-866-229-3239.

System Requirements: To see if your computer is compatible, visit <http://support.webex.com/support/system-requirements.html> and refer to the WBS 27 section

Meeting Preparation: The playback of UCF (Universal Communications Format) rich media files requires appropriate players. To view this type of rich media files in the meeting, please check whether you have the players installed on your computer by going to <https://energy.webex.com/energy/systemdiagnosis.php>.

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## CALENDAR

To add this meeting to your Microsoft Outlook or compatible calendar program, click the following link or copy the link and paste it into your Web browser:

<https://energy.webex.com/energy/j.php?ED=170263727&UID=1312612017&ICS=MI&LD=1&RD=2&ST=1&SHA2=Sb5w8j9jWlimKMUvbsrVO3tRTI0AgEmGnOkKixMQeOo=&RT=MiMO>

## 16. Proposal Requirements

It is required that proposals contain the following elements. Failure to include these elements WILL result in proposals receiving lower scores and may result in proposal rejection.

### A. Grant Proposal Cover Page and Instructions

Applicants must complete and include Attachment A.

### B. Executive Summary

The maximum length of the Executive Summary is four (4) pages. The Executive Summary must include, at a minimum, a project description, project objectives, and quantitative and measurable goals to be achieved.

### C. Project Narrative

- Include a detailed discussion of how the proposed project addresses each of the scoring criteria as described in Attachment G, Section 2. Provide sufficient detail so that reviewers will be able to evaluate the proposal against each of the criteria. The Project Narrative should be no more than 20 pages in length.
- Describe the current status of research in the area of the proposed project, barriers to advancement of the research area, and why the proposed project is the next logical step to advance scientific understanding in the area of research.
- Show project collaboration and coordination, especially the pathway to wider use of the research products.
- Submit project budget information, including the source(s) of and use(s) for match funding, a justification for any in-kind match funding, and the reasons why this project is not likely to be funded by competitive or regulated markets.

### D. Statement of Work

Applicants must include a completed Statement of Work following the template contained in Attachment B. Instructions for completing the Statement of Work template are included in Attachment C.

Provide a description of quantified targets, goals, and market and/or policy application. Explain the target market or area of policy, and the significance to combined heat and power developments, where the products of this research can be applied. The Statement of Work should provide anticipated direct and indirect benefits to California electricity ratepayers.

**E. Resumes and Background**

Short resumes, maximum of two (2) page(s) each, of the Principal Investigator (PI) and key research partners (individuals in your organization or subcontractors), emphasizing experience related to activities to be performed in the project. The Applicant shall also list any prior, existing or planned Agreements with the Energy Commission.

**F. Budget**

- Applicants must complete and include the Budget Forms referenced in Attachment D.
- The budget should allow for the expenses of a Kick-off Meeting, at least two Critical Project Review meetings, and a Final Meeting. It is anticipated that meetings will be conducted at the Energy Commission located in Sacramento, California. Applicants should also budget for permits, insurance, etc but limit the funding source to match funds.
- The budget should allow for the preparation and submission of monthly or quarterly progress reports during the approved term of the Agreement, and a final report that follows Energy Commission guidelines which can be found at: <http://www.energy.ca.gov/contracts/pier/contractors/index.html>.
- The budget must give estimates for costs to be incurred during the term of the project. However, Recipients can only bill for the actual expenses incurred and are not to exceed the labor rates specified in the budget. The Energy Commission can only approve and reimburse expenditures for actual costs that are properly documented in accordance with the PIER Grant Agreement Terms and Conditions.
- The budget must NOT include any profit from the proposed project, either as a reimbursed item or as match share. In accordance with the PIER Grant Agreement Terms and Conditions, NO PROFIT IS ALLOWED UNDER GRANT AGREEMENTS. Please review the PIER Grant Agreement Terms and Conditions for additional restrictions and requirements.
- The purchase of equipment (items with a unit cost greater than \$5,000 and a useful life greater than one year) with PIER funds will require disposition at the end of the project. Typically, Grant Recipients may continue to utilize equipment purchased with PIER funds as long as the use is consistent with the intent of the original Grant Agreement, but this is not always the case. There are no disposition requirements for equipment purchased with match share funding.

**G. Schedule of Products and Due Dates and Instructions**

Applicants must complete and include a Schedule of Products and Due Dates following the template specified in Attachment E. The Schedule of Products and Due

Dates must be consistent with the information provided in the submitted Statement of Work.

**H. California-Based Entity (CBE) Form**

Eligible applicants must complete and submit the CBE Form (included as Attachment H of this Solicitation) for each CBE.

**I. Letters of Commitment**

Applicants must provide letters of commitment from each source of matching funds, project host site for demonstration projects, and key project partners. This may include a financial or monetary value on the amount and type of in-kind services commitment.

**17. Proposal Guidelines**

Proposals should adhere to the following guidelines. Failure to adhere to these guidelines **MAY** result in your proposal being rejected and not eligible for funding.

- A. Limit proposals to a maximum length of 50 pages.
- B. Use a standard **12-point font** and **1-inch or larger page margins** and **number the pages**.
- C. Project duration cannot be more than three years.
- D. All project expenditures (match share and reimbursable) must be made within the approved term of the Agreement.
- E. PIER funding requests, per project, cannot exceed \$2 Million.
- F. Submit the following to the Energy Commission:
  - One (1) original hard copy of the proposal, signed by an authorized representative of the Applicant's organization and bound with a binder clip (no covers or other types of bindings please);
  - Six (6) copies of the proposal bound with a staple in the upper left corner (no covers or other types of bindings please)
  - One (1) CD containing all the documents related to the proposal in editable format (WORD and EXCEL please).

**18. Confidential Information**

**NO** confidential information will be accepted during the proposal and selection phase of this Solicitation. If any confidential information is submitted, the entire proposal **WILL** be rejected, returned to the applicant, and ineligible for funding.

While discouraged, Applicants may **propose** to deliver confidential products during the course of the project if funded. If necessary, instructions on submitting confidential products will be provided by the Energy Commission prior to executing the Grant Agreement.

**19. Submission Requirements**

Proposals must be received by the Energy Commission's Grants and Loans Office by **4:00 p.m. on the date listed in Table 1**. Proposals must be mailed or delivered to:

California Energy Commission  
Grants and Loans Office  
Attn: PON-11-507 **Hybrid Generation and Fuel-flexible (DG/CHP/CCHP) Systems**  
Reducing the Environmental Impact of Solar Energy  
1516 Ninth Street, MS-1  
Sacramento, CA 95814

Postmark dates of mailing, electronic mail (E-mail), and facsimile (Fax) transmissions are not acceptable in whole or in part under any circumstances. The Energy Commission will reject all Proposals not received by the Energy Commission's Grants and Loans Office by the stated due date and time given in **Table 1**. Please allow time to deliver the proposal by the designated deadline. **The Energy Commission has no flexibility to allow late submissions, even if only a few seconds or minutes late.** If hand delivering the proposal to the Energy Commission we encourage planning to arrive by 3:30 pm on the due date at the latest in order to allow for unforeseen difficulties with traffic or parking.

**20. Grounds for Rejection**

Proposals **WILL** be rejected and not considered for funding if:

- A. The proposal is not received by the Energy Commission's Grants and Loans Office by the stated due date and time.
- B. The proposal contains confidential information.
- C. The Applicant proposes a project that has been or is being funded with an Energy Commission agreement.
- D. The proposal contains any intentionally false or misleading information.
- E. The proposal only addresses regulatory requirements that should be borne by the permit applicant.
- F. The Grant Proposal Cover Page and Instructions page (Attachment A) lacks signatures or contains improper signatures.
- G. The amount of non-PIER match funding is less than 25% of the PIER funds requested.
- H. The Detailed Budget documents contain only the unloaded rates but do not identify the average loaded rates (ALR).
- I. The proposed research project is not scheduled for completion and/or is not fully invoiced by March 31, 2015.
- J. Demonstration projects are not located in an IOU service area.

- K. The Applicant is a POU.
- L. The proposal does not include a CBE as either the Recipient or a subcontractor.
- M. The proposal budget does not identify the CBE(s) that will receive 60% of PIER funds.
- N. The proposal budget does not show that CBEs will spend at least 60% of PIER funds in California.
- O. The proposal does not include a CBE form for each CBE.
- P. The proposal budget does not document how PIER funds will be spent in California.
- Q. The proposal is for a demonstration project and does not include one or more letters of commitment from the project host site.
- R. The proposal does not include letters of support from each source of matching funds and from each key project partner.

Proposals **MAY** be rejected and not considered for funding if:

- A. The proposal is missing sections listed under **Section 16 (Proposal Requirements)**.
- B. The proposal does not adhere to the guidelines listed under **Section 17 (Proposal Guidelines)**.
- C. An Applicant submits more than one proposal for the same project or for minor variations of the same project.
- D. A member of the applicant's project team has a prior record of poor performance as part of any previous PIER Grant Agreement or contract.
- E. The Applicant has previously completed a PIER agreement, received the PIER Royalty Review letter (which the Commission annually sends out to remind past recipients of their obligations to pay royalties), and has not responded to the letter or is otherwise not in compliance with repaying royalties.

## 21. **Amendment or Cancellation of this Solicitation**

The Energy Commission reserves the right to amend or cancel this Solicitation. It is the policy of the Energy Commission not to solicit proposals unless there is a bona fide intention to award an Agreement. The Energy Commission reserves the right to do any of the following:

- Cancel this Solicitation.
- Increase or decrease the amount of funds available under this Solicitation.

- Amend or revise this Solicitation as needed.
- Reject any or all proposals received in response to this Solicitation.

## 22. Questions

Questions must be submitted by **4:00 p.m. on January 20, 2012**. Answers will be posted on the Energy Commission's website by January 27, 2012. Questions may be directed to and for those parties without internet access; copies of the questions and answers can be obtained by contacting:

Kevyn Piper  
Grant Officer  
Grants and Loans Office  
California Energy Commission  
1516 Ninth Street, MS-1  
Sacramento, CA 95814  
Telephone: (916) 654-4845  
Email: [kpiper@energy.state.ca.us](mailto:kpiper@energy.state.ca.us)

## 23. ATTACHMENTS

- A. Grant Proposal Cover Page and Instructions
- B. Statement of Work Template
- C. Instructions for the Statement of Work Template
- D. Budget Forms
- E. Schedule of Products and Due Dates and Instructions
- F. Examples of Previously Funded Projects
- G. Proposal Screening and Scoring Criteria
- H. California-Based Entities (CBE) Form
- I. Prevailing Wage Special Condition Template
- J. Prevailing Wage Compliance Certificate
- K. Prevailing Wage Compliance Questions and Answers
- L. Content and Format Of Progress Reports – Recommended
- M. Sample Resolution
- N. PIER Terms and Conditions
- O. Initial Proposal Pass/Fail Screening